

Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1-5. Canceled.

6. (Previously Presented) A contour emphasizing circuit comprising a synchronizing means, composed of a 1-dot delay circuit and a 1-line delay circuit, for synchronizing the timings of an objective pixel and adjacent pixels in horizontal, vertical, rightward-rising and leftward-rising directions represented by digital video signals, a contour direction detecting stage 24 for detecting the direction of the pixel whose absolute value of the difference in the luminance is largest among the differences in luminance of horizontal, vertical, rightward-rising and leftward-rising pixels which have been synchronized by the synchronizing means, a contour detecting stage 18 composed of an inclined contour luminance optimizing circuit 25 designed so that weighted contour emphasizing values of the luminances of the pixels in the directions detected in the contour direction detecting stage 24 and the luminance of said objective pixel can be determined, so that new objective pixels are picked out consecutively as the pixel next to the present objective pixel, and so that when the signs of two consecutive contour emphasizing values are the same, the contour emphasizing values preceding and following these two consecutive contour emphasizing values are adopted as they are, and when the signs of the two consecutive contour emphasizing values differ, the contour emphasizing values preceding and following these two consecutive contour emphasizing values are set to 0, and an adding circuit 22 for adding the contour emphasizing values, which have undergone inclined pixel optimizing processing in

the contour detecting stage 18, to the corresponding objective pixels respectively.

7. (Currently Amended) The contour emphasizing circuit according to claim 6, wherein the contour detecting stage 18 is composed of contour detecting filters 19a and 19c for weighting the luminances of the pixels in the directions detected in the contour direction detecting stage 24, ~~thea~~ contour detecting filter 19b for weighting the luminance of an objective pixel B2, and the inclined contour luminance optimizing circuit 25 designed so that when the signs of two consecutive contour emphasizing values are the same, the contour emphasizing values preceding and following the two consecutive contour emphasizing values are adopted as they are, and when the signs of the two consecutive contour emphasizing values differ, the contour emphasizing values preceding and following said two consecutive contour emphasizing values are set to 0.

8. (Previously Presented) The contour emphasizing circuit according to claim 6, wherein the synchronizing means is composed of the 1-dot delay circuit 11 and the 1-line delay circuit 12 for synchronizing the timings of 17 pixels, namely, the objective pixel C3 and pairs of adjacent horizontal pixels C1 and C5, C2 and C4, pairs of adjacent vertical pixels A3 and E3, B3 and D3, pairs of adjacent rightward-rising pixels E1 and A5, D2 and B4, and pairs of adjacent leftward-rising pixels A1 and E5, B2 and D4; the contour direction detecting stage 24 is composed of a subtracting circuit 13 for detecting the difference in the luminance between each of the pairs of the horizontal pixels C1 and C5, C2 and C4, each of the pairs of the vertical pixels A3 and E3, B3 and D3, each of the pairs of the rightward-rising pixels E1 and A5, D2 and B4, each of the pairs of the leftward-rising pixels A1 and E5, B2 and D4, an absolute value calculation circuit 14 for determining the absolute values of the differences in the luminance, a maximum

value detecting circuit 15 for detecting the direction of the pixel whose absolute value is largest of all, a first selecting circuit 16 and a second selecting circuit 17 for selecting, for output, one of the directions of the horizontal pixels C1 and C5, C2 and C4, the vertical pixels A3 and E3, B3 and D3, the rightward-rising pixels E1 and A5, D2 and B4, and leftward-rising pixels A1 and E5, B2 and D4 in response to the signal detected in the maximum value detecting circuit 15; the contour detecting stage 18 is composed of contour detecting filters 19a, 19b, 19d and 19e for respectively weighting the luminances of the pixels in the directions detected by said contour direction detecting stage 24, a contour detecting filter 19c for weighting the luminance of said objective pixel C3, and an adding circuit 20 for adding these values; the adding circuit 22 being provided for adding the contour emphasizing value weighted by said contour detecting stage 18 to said objective pixel C3.

9. (Original) The contour emphasizing circuit according to claim 8, wherein the coefficients of the contour detecting filters 19a, 19b and 19d for respectively weighting the luminances of the pixels in the directions detected by the contour detecting stage 24 are set to $-1/16$, $-1/8$, $-1/8$, and $-1/16$, while the coefficient of the contour detecting filter 19c for weighting the luminance of the objective pixel C3 is set to $3/8$.

10. (Previously Presented) A method of emphasizing the contours of pixels represented by a digital video signal, said method comprising the steps of selecting an objective pixel out of the pixels represented by the digital video signal; picking out the luminance of the pixel which differs the most from the luminance of the objective pixel from the pixels adjacent to the objective pixel in the horizontal, vertical, rightward-rising and leftward-rising directions;

utilizing the luminance which differs the most from the luminance of the objective pixel to determine contour emphasizing values;

selecting a pixel adjacent to the objective pixel as a new objective pixel;

picking out the luminance of the pixel which differs the most from the luminance of the new objective pixel from the pixels adjacent to the new objective pixel in the horizontal, vertical, rightward-rising and leftward-rising directions;

utilizing the luminance which differs the most from the luminance of the new objective pixel to determine contour emphasizing values;

performing inclined contour optimized processing by adopting preceding and following contour values as they are when the signs of two consecutive contour emphasizing values are the same or making the preceding and following contour emphasizing values zero when the signs of the two consecutive contour emphasizing values differ; and

adding the contour emphasizing values which have undergone the inclined contour optimizing processing to the corresponding objective and new objective pixels respectively.